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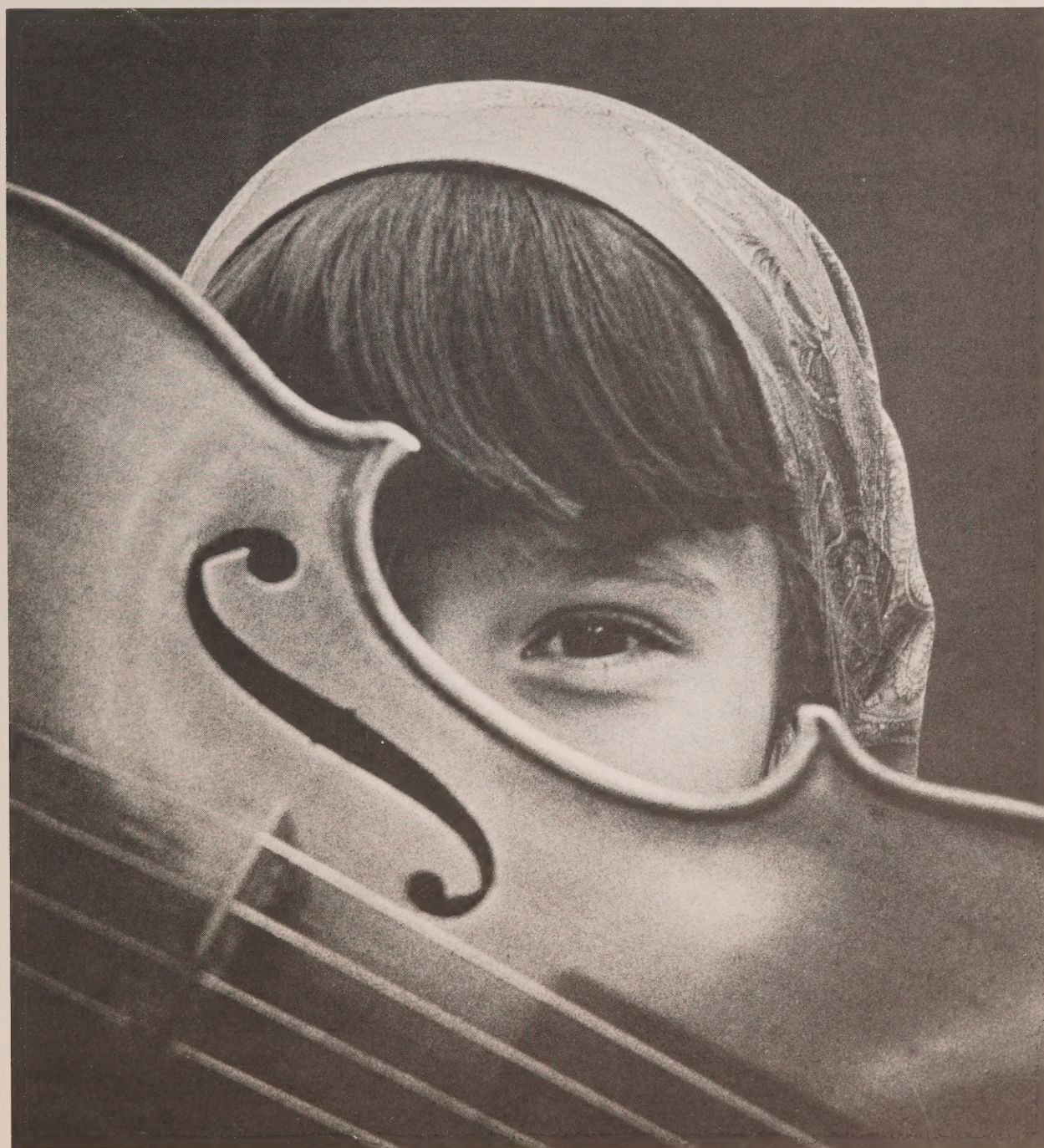
The Hon. Bette Stephenson, M.D.
Minister

**Curriculum Ideas
for Teachers**

1978

English
Intermediate
Division

Language Across the Curriculum

**A Resource Document
for Principals and Teachers**

Contents

Language: A Key to Learning

Language is the means by which individuals process experience and give meaning to it, both for themselves and for others. As students grow and mature, their language patterns and skills continually develop and expand, reflecting an increasing ability to learn by thinking, listening, speaking, reading, and writing. "Language puts the intelligence of the individual at his own disposal."[1] One of the teacher's functions in all subject areas is to reinforce the key role of language in the learning process.

In each subject area, opportunities for learning and for developing language proficiency arise when students discuss ideas, clarify concepts, share discoveries, examine problems, and form hypotheses. *The language of each subject area, however, involves a special vocabulary and definite modes of expression and thought*. For the students, these words and modes of expression may be new and challenging. The students need frequent and continuous opportunities to practise and to develop proficiency in understanding and using the language particular to each subject area. Concurrently with this developing of language, students are also using their language to understand and learn the skills, concepts, and ideas of the subject areas. As students talk and write about observations they have made or information they have discovered, they move towards understanding and assimilation. Their knowledge of the subject and their ability to put it to use are deepened.

For this process to take place the teacher must provide a positive environment in which the student's use of language is encouraged. In such a positive environment, the teacher accepts the students' own language as a starting point, and creates opportunities for students to engage in meaningful dialogue. "Restrict the nature and quality of that dialogue and ultimately you restrict thinking capacity."[2] Thinking, problem-solving, creativity, and learning can be limited if emphasis on formal expression comes too early or too frequently in the study of any subject. This is not to imply that accepted forms of language are to be ignored; identification of faulty usage and direction in the appropriate use of language may be brought into focus at the editing or revision stage, when the student is interested in presenting ideas as effectively as possible. With the teacher as model and with such deliberate intervention tuned to individual needs, improved modes of expression can gradually be developed in a particular subject area.

The Role of the Principal in Language Development Across the Curriculum

Because language development is central to all learning that takes place in a school, the principal has a special role in ensuring that a consistent and positive language policy is adopted by all staff members regardless of their subject field.

The responsibility of the principal for encouraging language development is clearly stated in the curriculum guideline for Intermediate Division English (1977). In the implementation of policy the principal's role may be defined in terms of two major areas of responsibility — awareness and leadership.

Awareness

The principal should:

1. use, both in speech and in writing, language that is precise and effective;

2. identify and discuss with staff members some of the underlying ideas of the Intermediate Division English guideline and its support documents; for example:

— Language development occurs primarily through experience with language.

— Language skills of listening, speaking, reading, and writing are interrelated and should be taught through an integrated approach.

— Language skills are also integrated with thinking skills.

— As language develops adolescents improve their ability to deal with abstractions.

3. read *The Formative Years* and the Senior Division English guideline, 1977;

4. be acquainted with current thought in the field of language development;

5. make an accurate assessment of students' language activities by using such strategies as:

a) sampling teacher opinion on students' language development and needs;
For example, if a teacher says, "They cannot write a sentence," it is useful to determine under what circumstances the students are required to write, and what structural errors are being made.

b) asking teachers to note specific behaviour that indicates students' interest in and attitude towards language activities (these indicators should be determined by the staff);

c) surveying selected students to determine what they have read or written in a given time period;

d) examining samples of students' written expression in various subject areas;

e) listening to the students' language in various situations such as informal peer talk, small instructional groups, interviews, formal debates and speeches;

A collection of tapes of the language used by students at all levels can help the principal recognize the growth patterns in all aspects of language.[3]

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1. D. Barnes, J. Britton, and H. Rosen, *Language, the Learner, and the School*, rev. ed. (Harmondsworth, Eng.: Penguin Papers in Education, 1969), p. 126.

2. Ibid., p. 126.

3. OECA has tapes on this subject.

6. assess the language environment of the school from the students' perspective by questioning students concerning their degree of participation in class discussion, their willingness to seek clarification, the subjects in which they experience most difficulty with language, and their general attitudes to language activities;

7. ensure that textbooks are examined for levels of reading difficulty;
In addition, the relationship of textbook language to the kinds of questions teachers ask and their responses to student replies should be determined.

8. strive to have an accurate picture of the language activities in every subject area. Here the principal will find it helpful to refer to the self-evaluation questions for teachers (see Appendix A). Many of the same questions can be used in assessing the language activities in the school as a whole.

Leadership
The principal should:
1. exhibit interest in and enthusiasm for language as a means of both personal development and student learning in all subject areas;

2. assist each teacher to relate the aims of this document to the general aims of learning in each subject area by such means as:

a) a staff symposium on specific methods teachers or departments are using to further language development;

b) dialogue at staff meetings about the language learning opportunities inherent in the various disciplines;

c) the establishment of a committee of teachers charged with examining the question of language across the curriculum and with producing a set of specific recommendations;

d) the establishment, in each department, of specific, achievable, time-limited objectives (e.g., to increase the number and variety of history reading materials available for gifted students in Grades 9 and 10);

3. provide adequate in-service opportunities in the field of language development for all staff members by:

a) making pertinent language resources available to all;

b) utilizing staff members with expertise in the field of language as resource people;

c) inviting outside resource personnel to speak to all staff members on the subject of language development;

4. raise staff members' level of awareness of the importance of language development by such means as:

a) raising questions about the students' level of language development and publicizing among staff members effective approaches already in use;

b) helping teachers to use self-evaluation techniques related to language development (see Appendix A), emphasizing the importance of effective use of English by all staff members, including office staff;

5. encourage, for the language learning possibilities they provide, such co-operative school projects as:
 — a school newspaper or yearbook;
 — a display of student work or activities in a public place (shopping mall, public library);
 — a project centring on the community (e.g., historical celebration);
 — a musical or variety show;

6. encourage the positive exchange of ideas between teachers of different grade levels, particularly between the elementary and secondary panels;

7. encourage the establishment of programs specifically related to the improvement of language, such as:

a) *Uninterrupted, Sustained, Silent Reading* (U.S.S.R.) in which everyone in the school reads for a specified time, daily or weekly;
Students and staff members read material of their own choosing. No interruptions are permitted during this reading period.

b) a similar sustained program for writing;

c) a buddy system, in which an older or more gifted student is paired with a younger or less gifted student for a reading and discussion lesson;
This approach can be used with students within a single classroom or with students of different divisions by (i) having Intermediate pupils read to Primary partners in a K-8 school, or (ii) by having secondary school students tutor elementary students. It is an especially helpful technique with English-as-a-second-language and English-as-a-second-dialect students.

d) an authors' project whereby students edit and produce books comprising work they have specifically written for younger children;

e) a volunteer program in which adults of the community work with individuals or small groups to improve language;
This approach works well when the volunteer agrees to come for a specified time to perform specific activities with particular students under the teacher's direction.

f) partial integration of special education students, both the gifted and the less able, with the regular classes;

g) special remedial, English-as-a-second-language, English-as-a-second-dialect, or enrichment courses;

8. inform the public, through newsletters, personal interviews, parent-teacher nights, community organizations, and the media, about language development in the school and the purpose of the various activities;

9. encourage individual teachers to investigate, experiment with, and reassess ideas and strategies pertaining to language learning in their subject area.

Development of a School Language Policy: Suggested Steps

Principals might consider some of the following steps in establishing a school language policy suited to their individual leadership styles and the nature of their staffs and schools. They should:

1. become familiar with *The Formative Years* and the Intermediate and Senior Division English guidelines, 1977, and note the statements made in the new guidelines concerning language development in other subject areas;

2. read some of the books or reports on the interrelationship of language and learning listed in the resource list (of particular practical interest is the National Association for the Teaching of English monograph);

3. communicate with principals in other schools to learn about policies or techniques that have proven valuable in fostering language development throughout the curriculum;

4. hold discussions with teachers sensitive to the primacy of language as an instrument of learning, assessing with them the current level of student language development and exploring ideas for classroom and school strategies that would intensify this development;
It may be desirable to obtain information about the students and about the school as a language environment, using means such as those suggested in the previous section of this document (pp.3-4). Reports of these findings might be given to the staff for discussion.

5. hold a series of staff meetings, using small-group discussion techniques to:

a) explore the need for an appropriate language policy and encourage every teacher's support;

b) plan some strategies, both for individual classrooms and the school as a whole, and determine materials needed;

c) plan the implementation of the selected strategies and the means of communicating these, when such communication is deemed necessary or desirable, to board officials, parents, students, and the public;

d) determine ways of evaluating the selected strategies;

6. implement the strategies adopted and support them through personal involvement;

7. carry out the planned evaluation of the program and make modifications in the program where necessary;

8. give individual help and guidance to teachers who are having difficulty in implementing the program.

Implementation of Policy: Practical Considerations

The principal should facilitate the implementation of language policy in a practical way. This could take many forms, depending upon what strategies appear to be most viable for the school.

Following are some changes in organization and practice that might be considered.

1. Data Gathering and Assessment
In order to implement a language policy and assess its effects, new kinds of information about students and classroom procedures will be needed. Teachers should be involved in deciding what information is needed and how it might best be obtained and reported.

2. Staffing
Reallocation of staff may be necessary to provide for more remedial assistance, to permit additional teacher involvement in the resource centre, to allow the acquisition of a resource teacher to act as adviser on language as well as lay assistants, to allow smaller classes, and to provide for additional levels of instruction. Obviously, the principal must be aware and make the teachers aware of the implications of reallocating staff. For example, if a school opts for more special or resource personnel, teachers may have to deal with larger classes. Teachers, however, may be able to do a better job on language development if special teaching assignments are decreased and the average class size reduced. The decision will depend on the needs of the students and the expertise and interests of the staff.

Reallocation can give teachers experience with students at different stages of development and increase their understanding of the relationship between continuous progress in learning and competence in language skills.

3. Timetabling
Changes in timetabling may be necessary to allow for longer blocks of time with a home-room teacher, to permit special projects such as U.S.S.R., or to provide for remedial or reading-lab time. Teachers may find that the interests of language development are better served if younger adolescents spend less time on rotary and more with a home-room teacher.

4. Budget
The budget may have to be realigned to provide for increased library resources or a wider variety of classroom materials at all levels, rather than complete class sets of texts.

Some Strategies for Developing Language Proficiency Across the Curriculum

Developing Thinking Skills

There is a close, natural, and perhaps even necessary relationship between learning to think about one's experience (to generalize, to abstract, to analyse, and to synthesize) and learning to use one's language. Language is not only our primary means of communication, it is also one of the basic instruments that we use to structure and make sense of experience and information, including the information we receive in school. All teachers, particularly those who are subject specialists, must remember that the thinking a student does in any subject area is influenced by the student's experience of language. Students who have had opportunities to use language to generalize, explain, abstract, and hypothesize will be better able to do these things ''in their heads''; it is therefore important that teachers provide these opportunities whenever possible. For example, the kinds of questions a teacher asks can either stimulate or inhibit thinking and learning potential. The constant use of questions that require short answers and the recall of facts can stultify thought and learning.

There appear to be four main types of questions that parallel four levels of thinking:

1. questions relating to *cognitive memory*

2. questions that involve *convergent* modes of thinking

3. questions that involve *divergent* modes of thinking

4. questions that require judgement or *evaluation*

Teachers should give students frequent opportunities to answer questions of a higher order than that of straight factual recall, for it is in attempting to phrase responses to such questions that students progress in language development and thinking. An illustration of moving from a simple, cognitive memory question to higher orders of questions follows.

1. Cognitive Memory (factual recall)
What was James Watts' discovery?

2. Convergent Thinking (factual answers reached in different ways)
How was this discovery used?

3. Divergent Thinking (different answers are likely)
How has the gradual reduction in the use of steam power affected our lives?

4. Evaluative Thinking (judgement is applied, opinions are expressed)
In your opinion, what are the relative merits of using steam, oil, or electricity to heat a home?

The close relationship between language and learning exists regardless of subject content. In teaching the student how to practise the modes of thought appropriate to a specific subject, the teacher is assuming responsibility for:

— teaching the student how to listen with purposes specific to the subject;

— providing classroom opportunities for meaningful talk about the subject;

— developing the reading skills the student needs to make effective use of texts and resource materials in the particular subject;

— providing opportunities for written work in forms characteristic of the subject.

In short, teachers should strive to alleviate the dissociation of disciplines by building on the learning methods that the students have been practising since infancy. This is especially important when the material itself seems strange or difficult.

Developing Listening Skills

Language proficiency in any discipline may begin with listening. Teachers can focus on developing effective listening skills by directing students to:

— accept responsibility, along with the speaker, for communication, by responding, questioning, or note-making;

— follow instructions carefully;

— recognize patterns in the arrangement of subject matter;

— distinguish between the central idea and supporting details;

— develop sensitivity to the significance of sound (volume, pitch, intonation);

— use the time differential between speed of thought and speed of speech to analyse, evaluate, predict the next point, or make notes;

— become aware of patterns of language usage particular to various subject areas.

Developing Speaking Skills

In every subject area students require frequent opportunities for exploratory talk and small group discussion to put new information and ideas "into their own words" and link the subject matter to what they already know. These opportunities allow them to manipulate language informally, to develop confidence, and to become articulate. As they begin to appreciate the practical value of speech in both problem-solving and interaction with their environment, they build the foundation that eventually enables them to extend their range of language ability to include effective written expression.

Strategies that facilitate learning through oral expression include:

— exploratory talk in small groups;

— oral reports following group discussions;

— problem-solving conducted orally;

— explanations of how something is made, or how and why things happen;

— announcements read by students;

— dramatization and role-playing;

— simulation games;

— interviews (live or taped);

— formal speeches, debates, panel discussions, seminars.

Developing Reading Skills

Helping Students Approach a Reading Task in Any Subject

Even when care has been taken to assign reading tasks that are within the students' capabilities, help will still be needed to ensure maximum comprehension. The purpose of any assigned reading should be clear, whether it is to determine the main idea, find supporting details, or make notes on key points.

Teachers must also provide opportunities for the development of reading skills appropriate to their own subject area. They should make available a variety of reading materials at different levels. Newspaper and magazine articles, pamphlets, and pocket books are inviting reading materials for students and can help create an environment conducive to reading.

In general, students at this level will have had less experience of informational prose than narrative prose. They will find the vocabulary, syntax, format, and style quite different from their own speech and from their usual reading fare. What's more, they may find that informational prose does not have the same impact as narrative prose and that, consequently, it does not readily stimulate the kind of questions that increase comprehension.

Teachers may find the following suggestions useful in helping students overcome some of these initial negative attitudes, born of unfamiliarity with some of the conventions of informational prose, and in helping them approach a reading task with confidence.

— *Motivation* is the key. Interest can be aroused through stimulating questions, statements, or passages read aloud by the teacher; through discussion that capitalizes on student statements or opinions; or through the use of concrete or visual aids.

— Students often need *prior information* to understand what they read, especially if the selection deals with unfamiliar content or uses many technical terms.

— Students need help in setting a *purpose* for reading. They need to formulate questions about what they expect to find in the passage, in both general and specific terms. At first the teacher will have to help students formulate these questions, but gradually the students should learn to express their own.

— Students need help in *relating* the new reading material to their own experience. The setting may be unfamiliar in time or place, but the students may have had experiences in their own lives or through previous reading that will be helpful. These experiences need to be called up to consciousness.

— Students often need help with *vocabulary*. Sometimes a few key or "stopper" words or phrases may be introduced before the reading task is assigned. These should be few, chosen mainly from the beginning of the selection, and presented in a context similar to the one in the reading selection.

— Students may need help with the *format* of the selection. Informational prose uses various devices to organize material and clarify meaning: abstracts, summaries, sub-headings, underlining, and various

styles and sizes of type. As well, certain key words or phrases (e.g., "in short", "to conclude", "to summarize") clearly indicate the purpose of a paragraph or section.

— Students may need help in interpreting the *illustrations*. Not all students can interpret these and a brief discussion of one or two key illustrations may aid comprehension.

— Students may need help with the *style* of the author. One author may invariably state the topic in the first sentence of a paragraph; another may use complicated sentence structures; a third may rely on the strategic placement of details and leave it up to the reader to make comparisons and draw conclusions. Whatever the style of the author, students need guidance in analysing factors that help or hinder comprehension.

Helping Students Become Independent Readers

This section suggests specific strategies that will help students become independent readers. Students should be encouraged to apply these strategies to every reading task they undertake.

Recognizing the Need for Additional Reading

Students must be taught to recognize questions raised by their reading and to seek further reading materials that will answer these questions. The teacher must:

1. help students define such questions for themselves;

2. ensure that additional materials are readily available;

3. give positive reinforcement when students decide to use such sources.

Getting Meaning From Context

Students should learn not to stop at each unfamiliar word or phrase but to read through the selection and deduce meaning from the context. They must be shown that often a new word is explained by synonyms or definitions placed in apposition or brackets, by examples, by the use of contrast, or by the placement of the word in the syntax of the sentence.

Differentiating Between Main Idea and Supporting Details

For students in the Intermediate Division such differentiation is often a great stumbling block. In every subject the teacher may need to provide formal, step-by-step practice in this skill for some students, but in most cases it will be enough to highlight the main ideas by posing questions that focus on the students' reasoning skills rather than the recall of details.

Reflecting on What is Read

Since critical reading is most effective when it is related to a specific purpose, students need to be taught to ask themselves questions such as:

— What facts support the main idea?
— How does the information relate to what I already know?
— Where does this new information lead me?
— Does the information make sense?

Varying Reading Speed

The speed at which students read should vary according to the nature of the material, the purpose for reading, and the ability of the individual student. Many students will find that they cannot absorb informational prose as readily as they can narrative prose read primarily for enjoyment.

Evaluating Progress in Reading

Students should be encouraged, from time to time, to complete a self-evaluation checklist such as the one given in Appendix B.

Developing Writing Skills

In the Intermediate Division teachers should recognize every student's "need to develop a more precise and logical language for the purpose of information processing and communication",[4] and should work to expand the student's ability to write in the various modes expected in the different subject areas. Thinking can be refined through the process of writing so that areas of confusion are identified, clarified, and resolved. Students must be allowed to use their own expressive language as they move towards the goal of mastering the technical language of the various subject areas.

Writing at the Intermediate level should stress further development of the ability to organize, to analyse, to hypothesize, and to synthesize, as well as to grow in personal and imaginative writing. Development of writing ability will depend on the students' comprehension of the reasons for writing, on their ability to confront more difficult tasks with confidence, and on the effective support of the teacher in directing the writing program towards successful achievement for each individual. In light of these factors, teachers should think carefully about the kinds of writing assignments they give.

Purposeful Writing

Through discussion of a topic, students can come to understand that effective writing results in part from the writer's having a strong sense of purpose. Writing in any subject should not be "busy work", but should be an integral part of learning. In science, for example, keeping notes on an experiment and writing up a report on the experiment are "natural" parts of scientific work.

Regular Practice

Students should be given time regularly in each subject to write in a positive, encouraging atmosphere. A daily journal, diary, or log provides the student with a means of expressing personal views, feelings, or observations on a topic of interest. In this regard, teachers may capitalize on current events pertinent to their subject area.

Recognition of Achievement

While it is not necessary that every writing effort be graded or formally assessed, it is important that the teacher give the student periodically an encouraging comment, suggestion, or some acknowledgement of achievement.
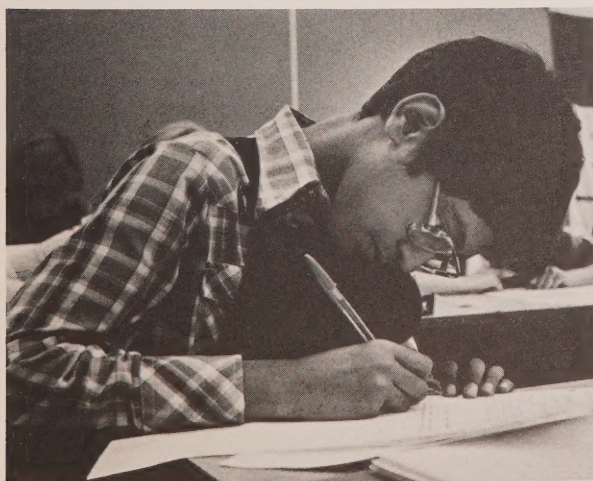
Evaluation and Language: Some Principles

1. Because most evaluation procedures are rooted in language, evaluation should take into account a student's development in the modes of language characteristic of each subject area. An enhanced ability to extract meaning from a text, increased clarity in the articulation of theories or facts, greater involvement in meaningful discussion will all be reflected in a general increase of learning. The evaluation of that learning, therefore, should allow opportunity for the demonstration of this increase in language competence.

2. To promote language development in all subject areas, evaluation should place emphasis on:

a) recognition of effective expression; and

b) specific suggestions for improvement, rather than on penalties for mechanical errors in spelling, punctuation, and grammar.

3. A variety of evaluation techniques should be used in every course. Undue reliance on objective-type questions will do little to develop language competence in any subject field. Oral or practical examinations may be necessary for students with language deficiencies.

4. The ability to reason, to apply facts, to explain concepts, and to hypothesize should be evaluated, as well as the recall of factual material.

5. Improvements in effort and attitude should be evaluated in terms of class participation, self-motivated inquiry, and independent study.

6. Students should be made aware of the criteria and methods of evaluation.

7. If evaluation of written work is to lead to improved writing and learning, it should be returned to the student promptly. As well, discussion between the teacher and the students and among the students themselves should be encouraged to give students opportunities to articulate concepts.

8. Evaluative procedures should be flexible enough to permit the pursuit of individual interests or the individual interpretation of a topic.

9. Guided self-evaluation should motivate students to greater effort and lead them to set high standards of expression in speaking and writing.

10. Controlled peer evaluation can emphasize the need for clarity in expression and provide immediate satisfaction when the communication has been effective.

Three Pertinent Questions for the Teacher

- What improvements in language use appropriate to the subject do I expect?

- What evidence would I accept as indication of such improvement?

- What evidence of improvement could I provide that would be acceptable to parents and others?

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4. Ministry of Education, Ontario, *English, Intermediate Division, 1977* (Toronto: Ministry of Education, Ontario, 1977), p. 39.

Suggestions for Specific Subject Areas

This section outlines some strategies that can be employed to improve language use in specific subject areas. The selection of subjects is not all-inclusive, but many of the strategies suggested can be modified for use in other subject areas. These suggestions are meant to facilitate learning in the subject through an understanding and use of language skills.

In every subject, students should be encouraged to explore in writing or speech questions or topics that interest them. In some situations they should be permitted to ''think out loud'' — in writing a problem solution on the chalkboard, for example.

Such active use of knowledge indicates the degree to which students actually control it. Although time spent in pursuit of topics of individual interest may have to be taken from time needed to ''cover a program'', the most important aims in the subject — those that are concerned with concepts and attitudes — have a better chance to be realized.

Business Education

The strategies for language learning in business subjects are as varied as the wide range of courses offered by many business education departments. The skills of thinking, listening, speaking, reading, and writing are essential to a person's effectiveness in the business world. Teachers might begin by listing the various practical uses of language in business — e.g., making notes on telephone calls, making notes on a meeting, writing various kinds of letters and reports. These ''real life'' activities suggest the kinds of experiences that the teacher should make provision for in the program. Approaches for developing language skills include the following:

1. structuring opportunities for students to role-play situations such as answering a telephone, relaying a message, dealing with an irate customer, undergoing a job interview, seeking clarification of instructions;

2. giving instructions on how to read and use a textbook or related material as a tool for learning;
This guidance could emphasize the acquisition of a specialized vocabulary in a subject like accountancy where key terms such as ''source document'' or ''special journal'' must be precisely understood before a student can solve a problem.

3. suggesting that students adjust the rate of reading downward in order to ensure comprehension and interrelate the symbol systems presented in a business problem;

4. making students aware that accuracy in typing is more likely when they comprehend what is read and when the reading rate is adjusted to the typing speed.

English

While this document is primarily directed to teachers of subjects other than English, teachers of English are expected to assume a share of responsibility throughout the process. Teachers of other subjects may turn to those whose speciality is English for concrete suggestions. English teachers could share with other teachers their expectations for language proficiency at different levels.

Through co-operative planning with teachers in other subjects (e.g., history, music, art, science, and mathematics) English teachers can, at appropriate times, relate some of the literary content of their courses to the content the students are currently studying in other courses. As well, they should stress to their students the vital importance of mastering language skills, which are essential to success in all subjects.

Finally, English teachers should continue to ensure that writing activities designed to elicit students' responses to what they have read provide opportunity not only for developing critical skills but also for expressing personal responses and feelings. Stress should be given to the use of language for humanistic purposes, to discuss values and motives. Students should explore the nature and effects of language not only to express their own experiences, but also to expand their command of language and thus their understanding of such experiences.

Geography

Among the aims of teachers of geography is the encouragement of student growth ''toward clear, precise communication with others in a variety of ways, with emphasis on graphic forms''.[5] The following comprehensive section is taken from the current Intermediate Division Geography guideline.

Communication Skills

All studies must help students to acquire effective communication skills in the English language. This includes organizing ideas in a logical, consistent manner and communicating clearly and effectively with others in writing and in speech. The following are some verbal and writing skills which can be developed in the course of geographic studies:

1. *Locating information:* In geographic studies, information is likely to be available from a wide range of sources including atlases, gazetteers, maps, textbooks, and encyclopaedias. Because studies will focus largely on the contemporary world, it is important to make use of magazines, newspapers, films, television, and recorded materials as well. If maximum benefit is to be derived from their use, students will need to acquire the particular skills each source requires. Skills of reading, observing, listening, interpreting, and evaluating become important.

2. *Organizing information:* This includes steps such as making an outline of main points about a topic, supporting major points with selected facts, responding to questions that require classification of information, arrangement of facts or events in a logical order, writing summaries of main points, and preparing displays to present information.

3. *Using information:* This includes translation of information into forms that are pertinent to the task at hand, capability to retrieve information when it is needed; and judgement in recognizing what information is applicable to a situation.

4. *Evaluating information:* This includes exercising judgement to distinguish between fact and opinion, comparing opinions to discover agreement and disagreement, recognizing bias, prejudices, and inconsistencies, drawing inferences or implications, and reaching tentative conclusions or generalizations.

5. *Defining and using terms:* This includes development of an appropriate vocabulary so that words may be used in precise and concise ways. The specialized vocabulary for Intermediate students includes common expressions such as isolation, precipitation, cyclonic rainfall, and arometric pressure. Facility with such vocabulary should develop as a result of experience with textbooks or other materials used in studies.

6. *Communicating with others:* This includes speaking with assurance and accuracy, writing with clarity and precision, presenting information neatly in graphic forms, determining and defending a point of view using valid evidence, and portraying roles credibly in simulated situations.

7. *Group skills:* This includes developing the ability to work in groups for research and discussion, respecting the rights and opinions of others, accepting valid suggestions and criticism, accepting the self-discipline necessary to achieve common goals, and carrying a fair share of the workload required to reach those goals.

8. *Individual research skills:* This includes defining a task, locating appropriate information in an efficient way, working independently without supervision, organizing information in a logical pattern, presenting information succinctly, acknowledging sources in an appropriate way, and deriving satisfaction from the process and products of individual research.

Teachers must ensure that skill development is a fundamental component of every unit of study. It will be recognized that no list of skills can be complete and all-inclusive. In all cases, the importance attached to different skills should be related to the abilities and maturity of the students in the division.[6]

5. Ministry of Education, Ontario, *Geography, Intermediate Division, 1977* (Toronto: Ministry of Education, Ontario, 1977), p. 4.

6. Ibid., pp. 45-46.

History

Teachers of history have traditionally been concerned with both the speaking and writing skills of their students. They will, of course, continue to encourage their students to give oral presentations, to contribute to group discussions, to make concise and coherent notes, and to write essays. They may present lessons inductively, to allow students to talk or write about generalizations. They may set tasks and problems that students can solve through group talk. In testing, questions can be open-ended so that students can write several sentences rather than single-word replies. As well, assignments can be designed to encourage the proper use of resource materials and to discourage copying from encyclopedias or other general sources.

Here are some additional suggestions for improving students' language fluency in history and at the same time enhancing their awareness of Canada's heritage.

1. Personal memoirs lend immediacy to the students' experience of history and can serve as models for student writing.

2. Debates can be held between students who impersonate important historical figures in conflict. For example, students could role-play Nellie McClung and Sir Rodmond Roblin engaged in a debate on the granting of suffrage to women. Students could also stage debates or panel discussions between ordinary citizens (parents, business people, teachers, and students) to compare and contrast the social customs of different historical epochs.

3. Students can conduct mock interviews of Canada's celebrated historical personages, in which these persons are required by the interviewers to justify their decisions.

4. Students can dramatize episodes of high conflict from Canadian history, or events that illustrate the hardships of frontier life or the struggle of the Native Peoples with the Europeans. Complex dramatizations would have to be scripted before they were performed.

5. Students could compose letters written by new immigrants to Canada at specific historical times. In letters written to their families in their homelands, they could give impressions of their new country and express their hopes and fears.

6. Students can produce a newspaper, a magazine article, a radio broadcast, or a television show covering an important historical event using a style appropriate to the time concerned.

7. Students can compose a documentary on their locality using taped interviews with their grandparents and senior citizens.

8. Teachers should realize that for many students history texts are difficult to read at an independent level. They should therefore explain:

— the organization and structure of the text;

— the use of such key words and phrases as ''in conclusion'', ''in summary'', ''however'', ''on the other hand'', ''nevertheless'', ''in contrast'';

— the use of graphics (e.g., maps, charts) and their relationship to the textual material;

— specialized terms and important historical concepts elaborated in the text (this should be done *before* students are asked to read);

— the use of the glossary, index, and table of contents;

— the importance of reading expository (historical) material at an appropriate rate, usually more slowly than other types of material. As well, paragraphs or sections may have to be read several times.

9. Teachers should encourage discussion of the purpose of each reading assignment (to determine cause and effect, to remember sequence of events, to understand an historical concept). This applies not only to texts, but to other supplementary written materials.

Mathematics

Students in the Intermediate Division are confronted with several symbol systems (numbers, words, signs, and letters) and are expected to understand and use the interrelationships between these systems. Language is of crucial importance in helping students understand the principles of mathematics and in helping them develop proficiency in communicating, conceptualizing, and problem-solving. Time spent teaching effective reading strategies, exploring new concepts, and working on problems usually has gratifying results for both the student and teacher. Students will benefit from assistance in:

— acquiring specialized vocabulary;

— understanding symbols and graphs;

— solving problems.

Strategies for Helping Students Acquire Specialized Vocabulary

The meaning of a term in mathematics is precise. Students should be encouraged to read with care and to reread whenever they encounter a new definition.

A notebook page entitled ''A Glossary of New Mathematical Terms'', on which a student writes new terms and their definitions, helps to reinforce the assimilation of exact meaning. Students should be encouraged to explain terms in their own words and to discuss definitions with one another.

Games can be used to stimulate interest in precise meaning. ''Geo-bingo'', played like bingo, stresses precise understanding of geometric terms. The caller chooses a card and calls out the shape — rhombus, equilateral triangle, obtuse angle, whatever the case. If players have a corresponding shape on their cards, they cover it with a marker. The game continues until a player has a winning pattern of four corners or a column. Many such games can be adapted to reinforce learning in mathematics.

Strategies for Helping Students Master Symbols and Graphics

Oral reading is one strategy that can be used to encourage the student to focus on the key word in a question and on the relationship between the words. By carefully verbalizing the problem, the student focuses on the symbol, thinks about it, and clarifies its meaning.

It is helpful to encourage concentrated reading of graphics whenever these are used to illustrate a mathematical concept. Students benefit from guided activities in which they read and reread, making

connections between the written explanation and the diagram, graph, or table.

Strategies for Helping Students Develop Problem-solving Skills

Problem-solving involves interpreting, relating, hypothesizing, evaluating, and drawing conclusions. The teacher can help students increase their ability to use language to think about, talk about, and solve problems by encouraging them to:

1. read the problem slowly to understand it;
Students have a tendency to read mathematical material at the same rate as they read other material. In mathematical material, the precise meaning of each word is important; slow and careful reading for meaning is therefore essential.

2. ask the question, ''What am I to find?'';
Students may need to read a problem several times before they can identify precisely what it is that they are to find out. Buzz sessions or small group discussions may also help students to focus on the exact problem.

3. identify the facts given;
As students identify the essential facts given and discard extraneous information, they begin to see a relationship between these facts and what they need to figure out.

4. decide on the operation or process to be used to solve the problem;

5. make a reasonable estimate of what the answer will be;

6. complete the operation;

7. check the work done;

8. state the conclusion.

Music

Music has its own distinct language of symbols. It speaks with little need for reinforcement in verbal communication, and from this standpoint one could argue that it is a non-verbal form of expression. Yet in many ways language is a necessary adjunct to *learning* in music.

1. The study of history, form, analysis, and style all require the teacher and the student to express their ideas, both orally and in writing, using not only the symbols of music but the descriptive tools of language.

2. Appreciation is greatly enhanced by both oral and written communication as ideas, information, interpretations, and opinions are exchanged.

3. A common language is used in the field of music, poetry, choral speaking, dance, and drama. Words such as ''beat'', ''pulse'', ''rhythm'', ''sentence'', ''theme'', ''phrase'', ''tempo'', and ''metre'' show the parallelism in these subject areas.

4. Choral singing implies a strong bond between text and melody, and a musical rendition of a song is a skilful blending of the symbols of music and language.

5. Language can be an effective means of expressing, in terms the students can comprehend, the abstract symbolism of music used by the composer.

6. Language can do much to enrich the experience of students who have little background in music. Through communication with the teacher they learn about the creation of music, the composers, and the relation of music to other subjects such as history, science, geography, and mathematics.

7. Through language, teacher and students can clarify and refine their ideas about music.

8. The discipline of music is a strong aid in improving the skills of listening, speaking or singing, reading, and thinking. Writing skills may be exercised in the presentation of term papers and essays.
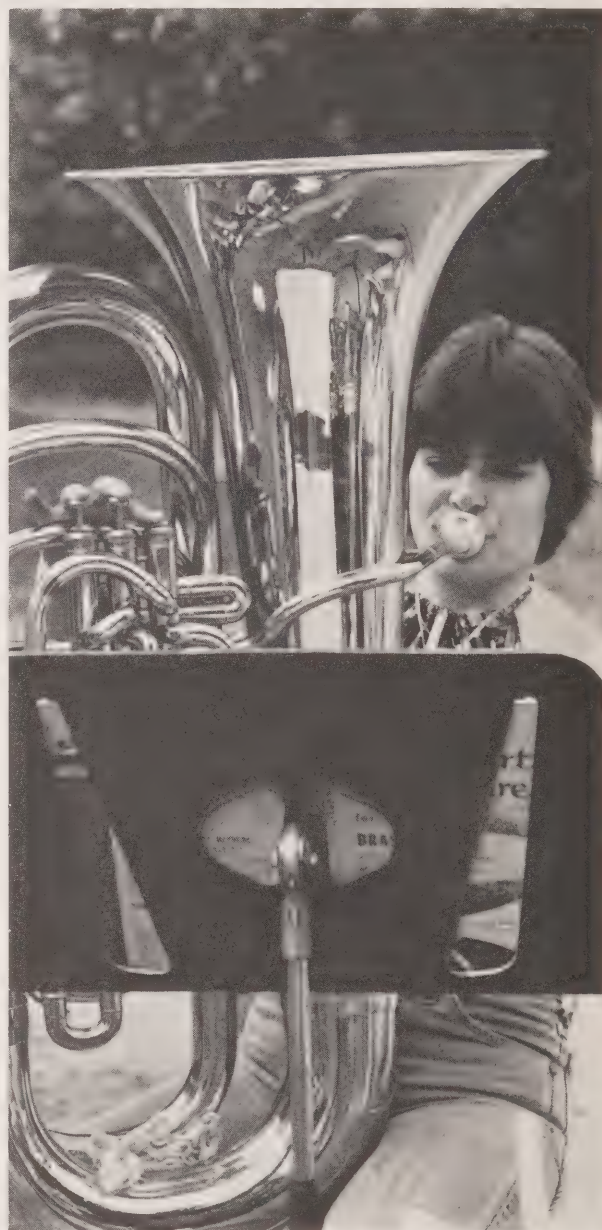
Physical and Health Education

Teachers of physical and health education have an important part to play in any program of language that spans the curriculum. Since their subject deals directly with the functions and activity of the human body, the skills and concepts taught in physical education contribute significantly to the future health and happiness of each individual.

Health classes present many opportunities for developing the language skills of students. Terms and definitions require accurate usage and understanding. Group discussions, simulation games, research projects, debates, and panel presentations are effective language-learning strategies which help to make students more aware of their personal responsibility for their own bodily and mental health.

During activity periods in the gymnasium, the pool, or on the playing field, language may appear to play a less important role. The need for careful listening is, however, particularly acute in physical education classes. Participation in drills and games is efficient and enjoyable only if everyone listens to and obeys the spoken instructions. Safety during activities also depends on active listening. The teacher must give instructions clearly and concisely if optimum benefits are to be derived from physical activity.

The physical education teacher can provide students with opportunities to explain movements and exercises, to referee games, and to assume leadership roles. Many important values, such as those inherent in co-operation, self-control, fair play, recognition of responsibility, honest effort, and the importance of practice, can be taught and articulated in activity classes. The meaning of important terms and concepts such as ''balance'', ''pivot'', ''grace'', ''co-ordination'', ''stamina'', ''participation'', and ''conservation of energy'' can be effectively demonstrated. Making the students directly aware of and sensitive to their own bodies increases their self-knowledge and aesthetic awareness.

Physical education provides a rich field for interdisciplinary learning. Co-operation in special projects with teachers of other subjects such as history, geography, science, art, music, and technical subjects provides many opportunities for exciting and interesting language learning. Modern medical technology invites analogies between human physiology and the functioning of various machines — respiration and the internal combustion engine, for example. The understanding of how the body moves may involve physics, with its laws of the lever and its concepts of energy and force. Few other subjects provide such a wide range of opportunities for exciting and interesting language learning.

Science

The processes of science that include identifying problems, developing hypotheses, organizing data, explaining findings, proposing theories, and formulating generalizations are all language-intensive activities. The Intermediate Division science guideline recognizes this fact when it states that ''English, or any other language, the vehicle by which scientific ideas are expressed or phenomena described and explained, can enhance the understanding if used well.''[7]

Without language, either spoken or written, modern science would not exist.

Obviously the advancement of science depends on communication that is clear, concise, and well organized. Teachers of science have a responsibility to foster their students' language development. The following strategies should prove helpful in improving language skills.

1. Time should be provided in science classes for students to talk about their observations and conclusions.

2. The science teacher must present the necessary scientific vocabulary and terminology, but must be careful to take into account the ability of the students in determining the number and difficulty of the words to be introduced. Tests aiming to determine the students' mastery of the vocabulary can be designed to increase the students' ability to use new concepts and words and to think precisely.

3. Notebooks provide the science teacher with a good means of encouraging and evaluating the students' language development.

4. Methods of writing experiments should be taught, and the students' notes checked regularly.

5. Students need to be taught to interpret and transpose data in graphs and charts and to label apparatus in scientific diagrams.

6. As scientific writing is new to most students in the Intermediate Division, science teachers will want to stress good organization and conciseness in their own writing and that of their students.

7. Quizzes or games centring on the meanings of scientific terms are useful in motivating the students.

8. Books on scientific topics, written at the students' reading level, can stimulate students' interest and curiosity. Science teachers should work with librarians in suggesting titles for the library that they think will be of particular interest to students.

9. When working in small groups, students can discuss the problem to be solved or the design of an experiment and refine their thinking in the process of listening and responding to their peers' ideas and suggestions.

10. Examinations and homework assignments should include both restricted and extended response essay items that challenge students to interpret and apply data and to think critically.

7. Ministry of Education, Ontario, *Science, Intermediate Division, 1977* (Toronto: Ministry of Education, Ontario, 1977), p. 31.

Visual Arts

Learning in and through the visual arts is enhanced by the developed and accurate use of language. While expression in a visual arts form is its own particular mode of communication, spoken and written language can readily enrich such activity.

— Language interrelates with visual perception in the setting of problems and parameters in looking, and acts as one of the means of describing and sharing what is seen.

— Language is related to knowledge in the visual arts and is one of the most effective means of communicating that knowledge.

— Language contributes to clarity of visual understanding through the use of the terminology of the subject.

— Language is the means of expressing critical and analytical thought in the visual arts.

— Reading, writing, speaking, and listening work in concert with seeing, making, and expressing in visual form.

— Language provides a way of linking the visual arts with other aspects of life.

In the Intermediate Division, the use of planned and developed language activities can contribute significantly to the achievement of the objectives of the visual arts program. Strategies involving language that can be used by the teacher include:

1. discussion of life experiences and topics to be expressed in visual art form;

2. use of material from novels, stories, plays, and poems as subject matter;

3. written listings of individual versions of topical ideas;

4. activities designed to develop precision and accuracy in outlining and following instructional steps, in using visual arts terminology, and in describing visual phenomena;

5. evaluation discussions of visual arts activities undertaken by the students as well as of works by artists and designers;

6. reading, speaking,and writing activities that involve comparing and contrasting thematic relationships in the historical aspects of art and design;
Such activities should involve a critical use of language and develop a vocabulary of criticism.

7. analysis and study of the use of key words and phraseology in poster work and visually oriented advertising;

8. activities that encourage students to relate periods and styles, as well as subjects, themes, and values, in various forms of literature to those in painting, sculpture, architecture, and design;

9. projects involving the writing of scenarios for presentation through puppetry or work with marionettes (student discussion of the project forms an important part of such activity);

10. speaking or writing activities that involve comparing and contrasting expressive ideas and emotions in literature and visual art form;

11. experience and discussion of film as a contemporary form of literature;

12. study of lettering forms, typography styles, and illustrated manuscripts;

13. use of illustrations to enhance some kinds of creative written work;

14. discussion, selection, and preparation of titles and captions for exhibits;

15. speaking and writing activities that involve comparing and contrasting structure, form, and function in language and in visual design.

Technological and Vocational Studies

The support of teachers of industrial arts, technical subjects, and vocational and occupational subjects is vital to any school language policy. Technological and vocational classes offer an important vehicle for the teaching not only of technical skills, but also of life skills. Most ''shop'' subjects are associated in the students' minds with practical accomplishment, and hence can influence learning far beyond the acquisition of technical skills.

People who can give oral instructions clearly, or who can write specific instructions accurately, have a potential for leadership positions in industry. Technical shops, in which the students participate in work that they find meaningful and practical, provide excellent opportunities for promoting language learning.
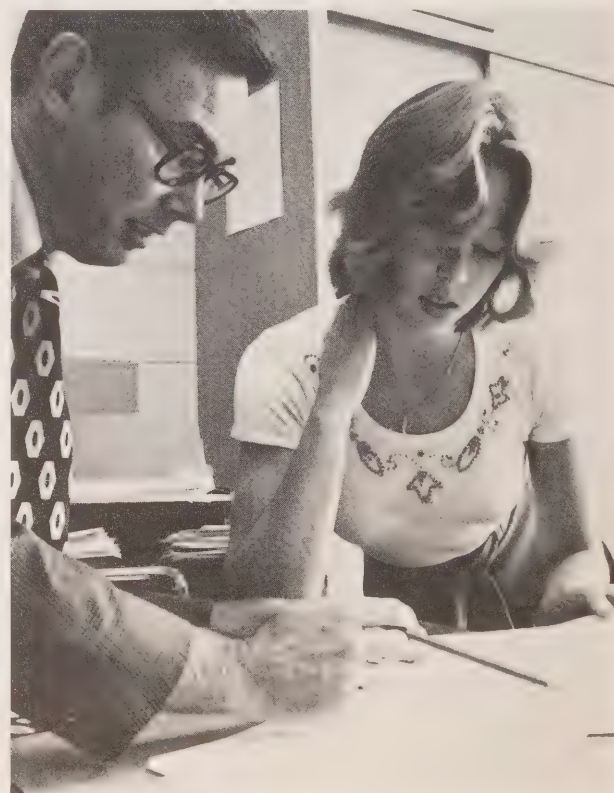
In addition to incorporating language skills, teachers should relate knowledge from other subject areas to the practice and theory in their shop classes. Important concepts such as safety, co-operation, responsibility, and honesty can be effectively imparted in the shop situation.

Here are some suggestions for fostering language learning in technical, vocational, and occupational areas. Although the suggestions are directed to the technical teacher, they apply equally to teachers of practical subjects in vocational-occupational programs and to teachers of industrial arts.

1. The particular vocabulary essential to technical subjects needs to be taught by the technical teacher. The range and complexity of the technical terms to be learned should be appropriately related to the ability level of the students.

2. Technical teachers, in co-operation with the English department, can promote the reading of literature selections that would be of particular interest to technical students.

3. The technical teacher will find it helpful to undertake with the English teacher some co-operative teaching of technical report writing. Selected assignments in the writing of technical reports or instructions could be designed and evaluated by both the English and technical teachers.

4. The technical teacher should instruct students in the use of catalogues, charts, parts lists, assembly instructions, maintenance manuals, and work orders. Students like to order materials from a catalogue, write out work orders and bills, and make up a time sheet.

5. The filling out of application forms for a job, an age-of-majority card, a social insurance number, or an apprenticeship are all practical and legitimate writing tasks for technical students.

6. At the conclusion of a unit, students can be asked to evaluate the organization and clarity of any work prepared by the teacher. This information might help the teacher revise selected worksheets for the following year.

7. Students could prepare quizzes or questions for a test based on the material they have studied and the skills they have learned. The act of explaining a process to someone else or formulating questions about it helps to increase the student's own understanding.

8. Students may be asked to keep a written record of their work experiences which can be validated by the technical teacher and used in job applications. This record should include dates, employers' names, and a brief description of the work performed.

9. Other staff members and students may be involved in role-playing situations such as job interviews, telephone inquiries, customer complaints, production planning meetings, estimating and costing interviews, foreman-worker interaction, and safety committee meetings.

10. A buddy system, in which older and more experienced students teach other students specific skills, can provide an effective way of helping students refine listening and speaking skills.

Appendix A: Evaluation Checklists for Teachers

1. Self-Evaluation

_____ Is my language usage an exemplary model for the student?

_____ Is my language understandable to my students, yet of a level and quality that will advance their language usage?

_____ Do I employ a wide variety of language (vocabulary, syntax, tone, style) to maintain interest and involvement?

_____ Is my questioning thoughtfully prepared to foster higher thinking skills (application, analysis, synthesis, evaluation)?

_____ Do I challenge my students to rethink, reorganize, and refine their expression?

_____ Do I give reinforcement that will encourage the students to use effective language?

_____ Do I help my students to expand partial answers through discussion and dialogue?

_____ Do I encourage my students, in class discussions, to address some of their remarks to their peers?

_____ Do I encourage critical thinking and response?

_____ Do my students feel free to take risks with language (use new words, guess at meanings, attempt new structures and styles)?

_____ Does my blackboard work demonstrate effective organization and usage?

_____ Have I ascertained the levels of language difficulty in the texts my students use?

_____ Do I provide my students with reading material that they can comprehend?

_____ Do I assist the students, when dealing with material of gradually increasing difficulty, to set purposes, to relate the material to their experiences, to unlock the meaning of key words or phrases, and thus to gain confidence?

_____ Do I encourage students to seek information independently from a wide variety of sources?

_____ In order to help students immerse themselves in a subject, do I provide a variety of opportunities for learning activities such as oral presentations, dialogues, group discussions, written reports, projects, simulation games, role-playing, and dramatizations?

_____ Do I encourage my students to evaluate their discussions and increase their awareness of group dynamics?

_____ Are my students free to choose some of the topics they write about?

_____ Do my evaluation techniques foster effective expression and logical reasoning? (See ''Evaluation and Language: Some Principles'', p. 9.)

_____ *Do I listen more than I speak?*

_____ Do my students see me as one who appreciates language and uses it effectively?

2. Evaluation of Learning Environment

a) What is the reading/writing environment of my classroom?

_____ Do students ever read in my subject area voluntarily?

_____ How many kinds of reading material do I make available?

_____ Can students with reading problems get information through other means (e.g., tapes of the text)?

_____ Do students know enough about the subject to comprehend what I ask them to read?

_____ Do students have time/opportunity to talk about what they have read?

_____ Do they have the opportunity to do non-assigned writing on the subject?

_____ Do students ever write for me voluntarily?

_____ How frequently and how much do they write?

_____ Do I encourage writing?

_____ Is all-written work marked? (Should it be?)

_____ Do my students always write for me as for ''an examiner''?

_____ What range of writing functions is represented in my assignments?

_____ Do I permit and encourage ''expressive'' writing?

_____ Do I provide opportunity for poor writers to work up to ''final draft'' language gradually?

b) What is the speech environment of my classroom? In an average week:

_____ How much of the time do I speak? (Evaluate in percentage.)

_____ How often do I *use* an idea or comment contributed by a student?

_____ How often do I really *listen* to what a student says?

_____ How often do I ask a question I'm really interested in?

_____ How often do I ask a question to which I already know the answer?

_____ How much of the time do my students speak? (Evaluate in percentage.)

_____ How many students speak voluntarily on the topic under discussion?

_____ How many respond directly to what another student says or asks?

_____ How often do they voluntarily refer to previous discussions, topics, or comments?

_____ How many ask questions they really seem to care about?

_____ How much opportunity is there for small-group work and discussion?

_____ When was the last time I delayed ''moving along'' to the next lesson to make time for students to understand and discuss the present lesson to their satisfaction?

_____ When did I last pay serious attention to my use of language in the classroom?

Appendix B: A Self-Evaluation Checklist for Students on Independence in Reading

1. Relate each of the following questions to your *general* reading habits and answer each one *yes* or *no*.

_____ Do you clearly understand the purpose for which you are reading?

_____ Before reading new material, do you survey it, noting subheadings, summaries, itemized lists, etc.?

_____ Do you make sure that you understand the meaning of key words or phrases?

_____ Can you tell the difference between the main ideas and supporting details?

_____ Do you attempt to use context clues to guess the meaning of unfamiliar words or phrases?

_____ Do you carefully examine illustrations and graphs, making connections between them and what is written in the text?

_____ Do you adjust your reading speed according to both the nature of the material to be read and the purpose for which you are reading?

2. Now that you have identified your strengths and weaknesses, give yourself a general rating by placing an X at the appropriate point on the scale below. Your teacher will evaluate you also.

Student's Evaluation

```
0    1    2    3    4    5    6    7    8    9    10
         Poor           Fair           Good   Excellent
```

Teacher's Evaluation

```
0    1    2    3    4    5    6    7    8    9    10
         Poor           Fair           Good   Excellent
```

In addition, you might keep a record of what you read in each subject area over a given period of time. The following format might be used:

Week: _____

Subject: _____

Pages of text read: _____

Other materials read: _____

_____

Setting Your Own Goals

What specific skills will you try to improve in order to become a more independent reader?

_____

_____

_____

_____

Some Suggested Resources

Barnes, Douglas. *From Communication to Curriculum*. Harmondsworth, Eng.: Penguin Books, 1976.

_____. *Language in the Classroon*. Milton Keynes, Eng.: The Open University, Educational Studies, 1973.

Barnes, D.; Britton, J.; and Rosen, H. *Language, the Learner, and the School*. Harmondsworth, Eng.: Penguin Papers in Education, 1969.

Britton, James. *Language and Learning*. Harmondsworth, Eng.: Penguin Books, 1970.

Bullock, Alan. *A Language for Life*. London: Her Majesty's Stationery Office, 1975.

Giroux, Henry. "Writing History: The Pedagogy of a Writing/History Model". *The History and Social Science Teacher* 13 (Spring 1978), pp. 181-90.

Langer, Susanne K. *Feeling and Form*. New York: Charles Scribner's Sons, 1973.

Mallett, Margaret, and Newsome, Bernard. *Talking, Writing and Learning 8-13*. London, Eng.: Evans/Methuen Educational, 1977.

Marland, Michael. *Language Across the Curriculum*. London, Eng.: Heinemann Educational Books, 1977.

National Association for the Teaching of English. *Language Across the Curriculum: Guidelines for Schools*. London, Eng.: Ward Lock Educational, 1976.

Nelson, O. W., and LaRusso, D. A. *Oral Communication in the Secondary School Classroom*. Englewood Cliffs, N. J.: Prentice-Hall, 1970.

Ontario, Ministry of Education. *Evaluation of Student Achievement: A Resource Guide for Teachers, 1976*. Toronto: Ministry of Education, Ontario, 1976.

Robinson, H. Alan. *Teaching Reading and Study Strategies*. Boston: Allyn and Bacon, 1975.

Robinson, H., and Robson, Thomas. *Fusing Reading Skills and Content*. Newark, D. E.: International Reading Association, 1969.

Sanders, N. M. *Classroom Questions: What Kinds?* New York: Harper & Row, 1966.

Smith, E. B.; Goodman, K. S.; and Meredith, R. *Language and Thinking in the Elementary School*. New York: Holt, Rinehart & Winston, 1970.

Smith, Frank. *Comprehension and Learning: A Conceptual Framework for Teachers*. New York: Holt, Rinehart & Winston, 1975.

_____. *Understanding Reading: A Psycholinguistic Analysis of Reading and Learning to Read*. New York: Holt, Rinehart & Winston, 1971.

Vygotsky, L. S. *Thought and Language*. Cambridge, Mass.: The M.I.T. Press, 1962.

Writing Across the Curriculum Project. *From Information to Understanding; From Talking to Writing; Keeping Options Open; Writing in the Humanities; Language and Learning in the Humanities; Language Policies in Schools; Why Write?; Writing and Learning Across the Curriculum; Writing in Science*. London, Eng.: Ward Lock Educational, 1976-77.

Notes

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